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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,289	03/26/2007	Andrew Charlton Clothier	424662013300	2200
25227 7590 01/08/2008 MORRISON & FOERSTER LLP 1650 TYSONS BOULEVARD SUITE 400 MCLEAN, VA 22102			EXAMINER PAUL, ANTONY M	
			ART UNIT 2837	PAPER NUMBER
			MAIL DATE 01/08/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/588,289

Applicant(s)

CLOTHIER ET AL.

Examiner

Antony M. Paul

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16, 18-20 and 25-27 ~~1-27~~ is/are pending in the application.
- 4a) Of the above claim(s) 17 and 21-24 ~~17 and 21-24~~ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 ~~1-27~~ is/are rejected. 1-16, 18-20 and 25-27
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 8/4/2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

NON-FINAL REJECTION

Claim Objections

1. Claim 16 is objected to because of the following informalities: The phrase, "a recorded medium comprising a computer program" is not explicitly mentioned in the specification. Appropriate correction is required.

Claim Rejections – 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-16, 18, 19 and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Ookawa et al. (5,796,226).

In regard to claims 1, 9, 18, 25 and 26, Ookawa et al. disclose in (fig.1) a control map [13a, 13b,13c] for a controller [ECU] of an electrical machine [1] having a rotor [R] (figs.18, 20), at least one electrically energisable phase winding [1a], control map [13a, 13b,13c] comprising predetermined advance angle profile (see table 1-3, column 14, lines 18-67, column 15, lines 1-40) representing energisation of the phase winding [1a] with respect to angular position of the rotor [R] (see, column 7, lines 20-54, column 10, lines 6-9) over a range of rotor speeds (table 1, column 13, lines 23-67, column 14, lines 18-50, column 15, lines 42-60, column 16, lines 28-36), and an angle correction factor (column 16, lines 5-19, see figs. 4a,5a-b,19) to be applied to a predetermined portion of

the advance angle profile such as in a control map [13a, 13b, 13c] (angle correction, see column 15, lines 20-40).

In regard to claims 2, 3, 4 & 5, Ookawa et al. teaches the limitations in (on/off angle, see column 15, lines 20-66, column 16, lines 1-36, figs. 19, 21-22).

In regard to claims 6 and 10, Ookawa et al. disclose in fig. 1 a control map [13a, 13b, 13c] in which the angle correction factor (fig. 19, column 15, lines 20-32) depends on a difference (fig. 2, calculation by comparator [7a]) between a measured input power such as a measured voltage [Vs6] (column 8, lines 31-67, column 9, lines 1-14) to the machine [1] and a predetermined input power such as a reference voltage [Vr2] at a predetermined rotor speed (see column 15, lines 20-40, column 17, lines 35-39).

In regard to claim 7, Ookawa et al. disclose in fig. 1 a control map [13a, 13b, 13c] in which the angle correction factor (fig. 19, column 15, lines 20-32) comprises a change in angle (such as in fig. 19, on/off angle, fig. 21a-c) required to reduce discrepancy (noise suppressed, column 10, lines 12-26, column 16, lines 5-39, column 19, lines 12-17) between the predetermined input power [Vr2] and the measured input power [Vr6].

In regard to claims 8 and 13, Ookawa et al. teaches a method using fig. 1 storing the control map [13a, 13b, 13c] in a memory (RAM, fig. 4b, column 20, lines 55-60, column 13, lines 59-67) in the controller [ECU] (column 7, lines 53-55 & column 20, lines 1-20). The other limitations for the base claim are explained in claim 1.

In regard to claim 11, Ookawa et al. teaches a method, in which the step of producing the angle correction factor (fig. 19, column 15, lines 20-32) includes applying predetermined incremental changes (incremental angle, see column 11, lines 43-58) to

the advance angle profile such as the control map [13a, 13b, 13c] (column 20, lines 1-20, lines 41-48, column 14, lines 18-34). The other limitations are explained in claim 10.

In regard to claim 12, Ookawa et al. teaches a method, in which the angle correction factor comprises the change in angle (angle increment, see column 11, lines 43-58, electrical angle decreases, column 16, lines 18-36, see figs. 19, 21a-c) required to reduce the difference between the measured input power [Vr6] and the predetermined input power [Vr2] (remains substantially equal, column 8, lines 66-67, column 9, lines 1-14, deviation reduced, column 19, lines 1-19).

In regard to claim 14, Ookawa et al. teaches a method further comprising transmitting the angle correction factor (fig. 19, column 15, lines 20-32) to the controller [ECU] by means of radio frequency signals (figs. 13, 17, 21a-c, column 13, lines 23-32, column 14, lines 35-65).

In regard to claim 15, Ookawa et al. teaches a method in which the input voltage such as [Vs6] (fig. 2, figs. 11, 17, column 8, line 36) applied to the phase winding [1a] is substantially constant (column 15, lines 13-15, 24-25, voltage proportional to current, see column 7, lines 42-45, constant current, see column 17, lines 58-59).

In regard to claim 16, Ookawa et al. teaches a recorded medium such as a CPU 11 (fig. 1b) comprising a computer program such as a flow chart (column 5, lines 40-41) stored thereon (memory, column 7, lines 53-55, column 8, lines 54-58, column 13, lines 59-63) for controlling a machine [1].

Claim 17 is cancelled by applicant.

In regard to claims 19 and 27, machine [1] is a switched reluctance motor (column 1, lines 55-58).

Claims 21-24 is cancelled by applicant.

Claim Rejections – 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ookawa et al. as applied to claim 18 above, and further in view of Elliott et al. (US 6,313,597).

In regard to claim 20, Ookawa et al. do not mention a cleaning device incorporating an electrical machine.

Elliott et al. disclose in fig. 2 a cleaning device [19] incorporating an electrical machine [12] (column 3, lines 66-67).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have used a cleaning device of Elliott et al. in the system of Ookawa et al. because a floor cleaning appliance is started with reduced torque and thereby reducing stress on a motor (column 2, lines 16-19, column 4, line 67 and column 5, lines 1-3).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Antony M. Paul whose telephone number is (571) 270-

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1608. The examiner can normally be reached on Mon - Fri, 7:30 to 5, Alt. Fri, East.
Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-1988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AP  1/04/2008


LINCOLN DONOVAN
SUPERVISORY PATENT EXAMINER